

DEPARTAMENTO DE
BIOINGENIERIA E
INGENIERIA AEROESPACIAL

DEPARTAMENTO DE BIOINGENIERIA E INGENIERIA AEROESPACIAL

Actividades de investigación

Tesis Doctorales

- Contributions to the improvement of image quality in CBCT and CB μ CT and application in the development of a CB μ CT system
Autores: SISNIEGA, A.
Director/Codirectores: JUAN JOSE VAQUERO
Año: 2013
- Epidermolysis Bullosa distrófica en población española: efecto fundador y datación de la mutación c.6527insC en el gen COL7A1.
Autores: SÁNCHEZ, C.
Director/Codirectores: RIO, M.D.
Año: 2013
- Using state-of-the-art inverse problem techniques to develop reconstruction methods for fluorescence diffuse optical tomography
Autores: CHAMORRO-SERVENT, J
Director/Codirectores: DESCO, M.; RIPOLL, J
Año: 2013

Publicaciones y actividades de difusión de resultados

Publicaciones en revistas científicas nacionales

- CALVO, F.A.; SOLÉ, C.V.; GONZALEZ, M.E.; TANGCO, E.D.; LÓPEZ-TARJUELO, J.; KOUBYCHINE, I.; SANTOS, J.A.; PASCAU, J.; HERRANZ, R.; FERRER, C.
Research opportunities in intraoperative radiation therapy: the next decade 2013-2023, *Clinical and translational oncology*, Vol. 15, Núm. 9, 2013, pp. 683-690, ESPAÑA.
- HERNANDEZ-MARTIN, A.; ARANEGUI, B.; ESCAMEZ, M.J.; LUCAS DE, R.; VICENTE, A.; RODRIGUEZ-DIAZ, E.; BERNABEU-WITTEL, J.; GONZALEZ-HERMOSA, R.; GARCIA-PATOS, V.; GINARTE, M.; MASCARO, J.M.; CORREDEIRA, C.; BASELGA, E.; SANTIAGO, J.L.; CHAVES, A.; ROMAN, C.; EVOLE, M.; MARTIN-SANTIAGO, A.; TORRELO, A.; RIO, M.D.; FEITO, M.; GONZALEZ-ENSEÑAT, M.A.; ROMERO, G.; MORCILLO-MAKOW, E.; ABAITUA, I.; GARCIA-DOVAL, I.
Prevalence of dystrophic epidermolysis bullosa in Spain: a population-based study using the 3-source capture-recapture method. Evidence of a need for improvement in care = Prevalencia de la epidermolysis ampollosa distrófica en España: estudio poblacional usando el método de captura-recaptura con 3 fuentes de datos. Evidencia de la necesidad de mejora en la atención sociosanitaria, *Actas dermo-sifiligráficas*, Vol. 104, Núm. 10, 2013, pp. 890-896, ESPAÑA.

- HERNANDEZ-MARTIN, A.; TORRELO-FERNANDEZ, A.; LUCAS-LAGUNA, R.D.; CASCO, F.; GONZALEZ-SARMIENTO, R.; VEGA, A.; PEDREIRA-MASSA, J.L.; UNAMUNO-PEREZ, P.D.; LARCHER, F.; ARROYO, I.
First Symposium of Ichthyosis Experts, *Actas dermo-sifiliográficas*, Vol. 104, Núm. 10, 2013, pp. 877-882, ESPAÑA.

Publicaciones en revistas científicas internacionales

- ALEMÁN-GÓMEZ, Y.; JANSSEN, J.; SCHNACK, H.; BALABAN, E.; PINA-CAMACHO, L.; ALFARO-ALMAGRO, F.; CASTRO-FORNIÉLES, J.; OTERO, S.; BAEZA, I.; MORENO, D.; BARGALLO, N.; PARELLADA, M.; ARANGO, C.; DESCO, M.
The human cerebral cortex flattens during adolescence, *The Journal of neuroscience*, Vol. 33, Núm. 38, 2013, pp. 15004-15010, ESTADOS UNIDOS DE AMERICA.
- ARRANZ, A.; DONG, D.; ZHU, S.; RUDIN, M.; TSATSANIS, C.; TIAN, J.; RIPOLL, J
Helical optical projection tomography, *Optics Express*, Vol. 21, Núm. 22, 2013, pp. 25912-25925, ESTADOS UNIDOS DE AMERICA.
- AUFENVENNE, K.; LARCHER, F.; HAUSSER, I.; DUARTE, B.; OJI, V.; NIKOLENKO, H.; RIO, M.D.; DATHE, M.; TRAUPE, H.
Topical Enzyme-Replacement Therapy Restores Transglutaminase 1 Activity and Corrects Architecture of Transglutaminase-1-Deficient Skin Grafts, *American journal of human genetics*, Vol. 93, 2013, pp. 620-630, ESTADOS UNIDOS DE AMERICA.
- BRACKE, S.; DESMET, E.; GUERRERO-ASPIZUA, S; TJABRINGA, S.G.; SCHALKWIJK, J.; VAN GELE, M.; CARRETERO, M.; LAMBERT, J.
Identifying targets for topical RNAi therapeutics in psoriasis: assessment of a new in vitro psoriasis model, *Archives of Dermatological Research*, Vol. 305, Núm. 6, 2013, pp. 501-512, ALEMANIA.
- CAL-GONZÁLEZ, J.; HERRAIZ, J.L.; ESPAÑA, S.; CORZO, P.M.G.; JUAN JOSE VAQUERO; DESCO, M.; UDÍAS, J.M.
Positron range estimations with PeneloPET, *Physics in medicine and biology*, Vol. 58, Núm. 15, 2013, pp. 5127-5152, REINO UNIDO.
- CHAMORRO, C.; ALMARZA, D.; DUARTE, B.; GONZALEZ, S.; MURILLAS, R.; GARCIA, M.; CIGUDOSA, J.C.; ESPINOSA, L.; ESCAMEZ, M.J.; MENCIA, A.; MEANA, A.; GARCIA, R.; MORO, R.; CONTI, C.J.; RIO, M.D.; LARCHER, F.
Keratinocyte cell lines derived from severe generalized recessive Epidermolysis Bullosa patients carrying a highly recurrent COL7A1 homozygous mutation: models to assess cell and gene therapies in vitro and in vivo, *Experimental dermatology*, Vol. 22, Núm. 9, 2013, pp. 601-603, REINO UNIDO.
- CHAMORRO-SERVENT, J; ABASCAL, J.F.P.J.; AGUIRRE, J.; ARRIDGE, S.; CORREIA, T.; RIPOLL, J; DESCO, M.; JUAN JOSE VAQUERO
Use of Split Bregman denoising for iterative reconstruction in fluorescence diffuse optical tomography, *Journal of Biomedical Optics*, Vol. 18, Núm. 7 (076016), 2013, REINO UNIDO.
- CHAN-BRAUN, C.; GARCIA-VILLALBA, M.; UHLMANN, M.
Spatial and temporal scales of force and torque acting on wall-mounted spherical particles in open channel flow, *Physics of fluids*, Vol. 25, Núm. 075103, 2013, pp. 2-, ESTADOS UNIDOS DE AMERICA.
- CHARLESWORTH, A.; CHIAVERINI, C.; CHEVRANT-BRETON, J.; RIO, M.D.; DIOCIAIUTI, A.; DUPUIS, R.P.; EL HACHEM, M.; LE FIBLEC, B.; SANKARI-HO, A.M.; VALHQUIST, A.; WIERZBICKA, E.; LACOUR, J.P.; MENEGUZZI, G.
Epidermolysis bullosa simplex with PLEC mutations: new phenotypes and new mutations, *British journal of dermatology*, Vol. 168, Núm. 4, 2013, pp. 808-814, REINO UNIDO.

- CHEN, X.; LIANG, J.; CAO, X.; YANG, D.; CHEN, D.; RIPOLL, J.; TIAN, J.
Feasibility study of endoscopic x-ray luminescence computed tomography: Simulation demonstration and phantom application, *Journal of applied physics*, Vol. 114, Núm. 8(e084701), 2013, pp. 1-5, ESTADOS UNIDOS DE AMERICA.
- COLUCCIO, A.; MISELLI, F.; LOMBARDO, A.; MARCONI, A.; MALAGOLI, G.; GONÇALVES, M.A.; PINCELLI, C.; MARUGGI, G.; RIO, M.D.; NALDINI, L.; LARCHER, F.; MAVILIO, F.; RECCHIA, A.
Targeted gene addition in human epithelial stem cells by zinc-finger nuclease-mediated homologous recombination, *Molecular therapy*, Vol. 21, Núm. 9, 2013, pp. 1695-1704, ESTADOS UNIDOS DE AMERICA.
- DI CLEMENTE, M.; RUFOLLO, G.; IANIRO, A.; IANIRO, A.; CARDONE, G.
Hypersonic test analysis by means of aerothermal coupling methodology and infrared thermography, *AIAA journal*, Vol. 51, Núm. 7, 2013, pp. 1755-1769, ESTADOS UNIDOS DE AMERICA.
- DISCETTI, S.; IANIRO, A.; ASTARITA, T.; CARDONE, G.
On a novel low cost high accuracy experimental setup for tomographic particle image velocimetry, *Measurement science and technology*, Vol. 7, Núm. 24 (075302), 2013, REINO UNIDO.
- GALINDO, J.; HOYAS, S.; FAJARDO, P.; NAVARRO, R.
Set-up analysis and optimization of cfd simulations for radial turbines, *Engineering Applications of Computational Fluid Mechanics*, Vol. 7, 2013, pp. 441-460, CHINA.
- GARCIA-VAZQUEZ, V.; MARINETTO, E.; SANTOS-MIRANDA, J.A.; CALVO, F.A.; DESCO, M.; PASCAU, J.
Feasibility of integrating a multi-camera optical tracking system in intra-operative electron radiation therapy scenarios, *Physics in medicine and biology*, Vol. 58, Núm. 24, 2013, pp. 8769-8782, REINO UNIDO.
- GRECO, C.S.; IANIRO, A.; ASTARITA, T.; CARDONE, G.
On the near field of single and twin circular synthetic air jets, *International journal of heat and fluid flow*, Vol. 44, 2013, pp. 41-52, REINO UNIDO.
- HOYAS, S.; GIL, A.; FAJARDO, P.; PEREZ, M.J.
Codimension-three bifurcations in a Bénard-Marangoni problem, *Physical review. E, Statistical, nonlinear, and soft matter physics*, Vol. 88, Núm. 1 (015001), 2013, pp. 1-4, ESTADOS UNIDOS DE AMERICA.
- JUAN JOSE VAQUERO; SANCHEZ, J.J.; UDIAS, J.M.; CAL-GONZALEZ, J.; DESCO, M.
MRI compatibility of position-sensitive photomultiplier depth-of-interaction PET detectors modules for in-line multimodality preclinical studies, *Nuclear instruments and methods in physics research. Section A, Accelerators, spectrometers, detector*, Vol. 702, 2013, pp. 83-87, HOLANDA - PAISES BAJOS.
- LACALLE-AURIOLES, M.; ALEMÁN-GÓMEZ, Y.; GUZMÁN-DE-VILLORIA, J.; CRUZ-ORDUÑA, I.; OLAZARAN, J.; MATEOS-PÉREZ, J.M.; MARTINO, M.E.; DESCO, M.
Is the cerebellum the optimal reference region for intensity normalization of perfusion MR studies in early Alzheimer's disease?, *PloS one*, Vol. 8, Núm. 12, 2013, ESTADOS UNIDOS DE AMERICA.
- LAMBERS, F.M.; STUKER, F.; WEIGT, C.; KUHN, G.; KOCH, K.; SCHULTE, F.A.; RIPOLL, J.; RUDIN, M.; MÜLLER, R.
Longitudinal in vivo imaging of bone formation and resorption using fluorescence molecular tomography, *Bone*, Vol. 52, Núm. 2, 2013, pp. 587-595, ESTADOS UNIDOS DE AMERICA.

- MARTÍNEZ-SANTAMARÍA, L.; CONTI, C.J.; GONZALEZ, S.; GARCIA, E.; RETAMOSA, L.; HOLGUIN, A.; ILLERA, N.; DUARTE, B.; CAMBLOR, L.; LLANEZA, J.M.; JORCANO, J.L.; LARCHER, F.; MEANA, A.; ESCAMEZ, M.J.; RIO, M.D.
The regenerative potential of fibroblasts in a new diabetes-induced delayed humanised wound healing model, *Experimental dermatology*, Vol. 22, Núm. 3, 2013, pp. 195-201, REINO UNIDO.
- MARTINO, ME; GUZMÁN-DE-VILLORIA, J.; LACALLE-AURIOLES, M.; OLAZARAN, J.; CRUZ, I.; NAVARRO, E.; GARCIA-VAZQUEZ, V.; CARRERAS, J.L.; DESCO, M.
Comparison of different methods of spatial normalization of FDG-PET brain images in the voxel-wise analysis of MCI patients and controls, *Annals of nuclear medicine*, Vol. 27, Núm. 7, 2013, pp. 600-609, JAPON.
- MATEOS-PÉREZ, J.M; DESCO, M.; DAE, M.W.; GARCÍA-VILLALBA, C; CUSSÓ, L.; JUAN JOSE VAQUERO
Automatic TAC extraction from dynamic cardiac PET imaging using iterative correlation from a population template, *Computer methods and programs in biomedicine*, Vol. 111, Núm. 2, 2013, pp. 308-314, HOLANDA - PAISES BAJOS.
- MATEOS-PÉREZ, J.M; GARCÍA-VILLALBA, C; PASCAU, J.; DESCO, M.; JUAN JOSE VAQUERO
jClustering, an open framework for the development of 4D clustering algorithms, *PloS one*, Vol. 8, Núm. 8 (e70797), 2013, pp. 1-7, ESTADOS UNIDOS DE AMERICA.
- MUÑOZ, P.; VALERIO, M.; PALOMO, J.; GIANNELLA, M.; YANEZ, J.F.; DESCO, M.; BOUZA, E.
Targeted antifungal prophylaxis in heart transplant recipients, *Transplantation*, Vol. 96, Núm. 7, 2013, pp. 664-669, ESTADOS UNIDOS DE AMERICA.
- ROLAND, J.A.; CUSSÓ, L.; CHUANG, H.Y.; YAN, X.; DRAGULESCU-ANDRASI, A.; GAMBHIR, S.S.
Development and validation of non-integrative, self-limited, and replicating minicircles for safe reporter gene imaging of cell-based therapies, *PloS one*, Vol. 8, Núm. 8 (e73138), 2013, ESTADOS UNIDOS DE AMERICA.
- SANCHEZ, C.; CUADRADO-CORRALES, N.; ALLER, E.; GARCIA, M.; ESCAMEZ, M.J.; ILLERA, N.; TRUJILLO-TIEBAS, M.J.; AYUSO, C.; MILLAN, J.M.; RIO, M.D.
Recessive dystrophic epidermolysis bullosa: the origin of the c.6527insC mutation in the Spanish population, *British journal of dermatology*, Vol. 168, Núm. 1, 2013, pp. 226-229, REINO UNIDO.
- SISNIEGA, A.; ZBIJEWSKI, W.; BADAL, A.; KYPRIANOU, I.S.; STAYMAN, J.W.; JUAN JOSE VAQUERO; SIEWERDSEN, J.H.
Monte Carlo study of the effects of system geometry and antiscatter grids on cone-beam CT scatter distributions, *Medical physics*, Vol. 40, Núm. 5 (051915), 2013, ESTADOS UNIDOS DE AMERICA.
- SPORTELLI, G.; ORTUÑO, J.E.; JUAN JOSE VAQUERO; DESCO, M.; SANTOS, A.
Massively parallelizable list-mode reconstruction using a Monte Carlo-based elliptical Gaussian model, *Medical physics*, Vol. 40, Núm. 1 (012504), 2013, pp. 1-11, ESTADOS UNIDOS DE AMERICA.
- TOSCA, A.; KOKOLAKIS, A.; LASITHIOTAKIS, K.; ZACHAROPOULOS, A.; ZABULIS, X.; MARNELAKIS, I.; RIPOLL, J; STEPHANIDIS, C.
Development of a three-dimensional surface imaging system for melanocytic skin lesion evaluation, *Journal of Biomedical Optics*, Vol. 18, Núm. 1(16009), 2013, pp. 1-13, REINO UNIDO.

- URIGÜEN, L.; GIL-PISA, I.; MUNARRIZ-CUEZVA, E.; BERROCOSO, E.; PASCAU, J.; SOTO-MONTENEGRO, M.L.; GUTIÉRREZ-ADÁN, A.; PINTADO, B.; MADRIGAL, J.L.M.; CASTRO, E.; SÁNCHEZ-BLÁZQUEZ, P.; ORTEGA, J.E.; GUERRERO, M.J.; FERRER-ALCON, M.; GARCÍA-SEVILLA, J.A.; MICO, J.A.; DESCO, M.; LEZA, J.C.; PAZOS, A.; GARZON, J.; MEANA, J.J.
Behavioral, neurochemical and morphological changes induced by the overexpression of munc18-1a in brain of mice: relevance to schizophrenia, *Translational Psychiatry*, Vol. 3, Núm. e221, 2013, ESTADOS UNIDOS DE AMERICA.
- VICENTE, E.; HERRAIZ, J.L.; ESPAÑA, S.; HERRANZ, E.; DESCO, M.; JUAN JOSE VAQUERO; UDÍAS, J.M.
Improved dead-time correction for PET scanners: application to small-animal PET, *Physics in medicine and biology*, Vol. 58, Núm. 7, 2013, pp. 2059-2072, REINO UNIDO.
- YANG, D.; CHEN, X.; PENG, Z.; WANG, X.; RIPOLL, J; WANG, J.; LIANG, J.
Light transport in turbid media with non-scattering, low-scattering and high absorption heterogeneities based on hybrid simplified spherical harmonics with radiosity model, *Biomedical optics express*, Vol. 4, Núm. 10, 2013, pp. 2209-2223, ESTADOS UNIDOS DE AMERICA.

Monografías Científicas

- MATEOS-PÉREZ, J.M; PASCAU, J.
Image Processing with ImageJ: discover the incredible possibilities of ImageJ, from basic image processing to macro and plugin development, *PACKT PUBLISHING*, REINO UNIDO, 2013.

Colaboraciones en obras colectivas

- CARRETERO, M.; GUERRERO-ASPIZUA, S; RIO, M.D.
Bioengineered skin humanized model of psoriasis, en: Molecular Dermatology: methods and protocols, SPRINGER SCIENCE BUSINESS MEDIA B.V., ESTADOS UNIDOS DE AMERICA, pp. 305-323, 2013.

Ponencias y Comunicaciones a congresos

- ABASCAL, J.F.P.J.; MONTESINOS, P.; MARINETTO, E.; PASCAU, J.; JUAN JOSE VAQUERO; DESCO, M.
A Prior-Based Image Variation (PRIVA) approach applied to motion-based compressed sensing cardiac cine MRI; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 233-236, Springer International Publishing, , 2013.
- CAFIERO, G.; CEGLIA, G.; DISCETTI, S.; IANIRO, A.; ASTARITA, T.; CARDONE, G.
The three-dimensional precessing jet flow past a sudden expansion; en: 22nd Italian Association of Aeronautics and Astronautics Conference (AIDAA 2013), 2013.
- CAFIERO, G.; CEGLIA, G.; DISCETTI, S.; IANIRO, A.; ASTARITA, T.; CARDONE, G.
The three-dimensional swirling flow past a sudden expansion; en: , 2013.
- CARRETERO, M.; GUERRERO-ASPIZUA, S; ILLERA, N.; HOLGUIN, A.F.; DUARTE, B.; RETAMOSA, L.; NAVARRO, M.; GARCIA, F.; DOPAZO, J.; LARCHER, F.; RIO, M.D.
Development of bioengineered skin-humanized mouse models for inflammatory skin diseases; en: Human gene therapy, , 2013.

- CEGLIA, G.; DISCETTI, S.; IANIRO, A.; MICHAELIS, D.; ASTARITA, T.; CARDONE, G.
Three-dimensional organization of flow structures at the exit of an aero-engine double swirling injector; en: 8th World Congress on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, 2013.
- CEGLIA, G.; DISCETTI, S.; IANIRO, A.; MICHAELIS, D.; ASTARITA, T.; CARDONE, G.
On 3D flow structures in a non-reactive model aero engine lean burn injection system; en: , 2013.
- CEGLIA, G.; DISCETTI, S.; IANIRO, A.; MICHAELIS, D.; ASTARITA, T.; CARDONE, G.
Tomographic PIV measurements of the flow at the exit of an aero engine swirling injector with radial entry; en: 10th International Symposium on Particle Image Velocimetry, 2013.
- CHAMORRO-SERVENT, J; ABASCAL, J.F.P.J.; RIPOLL, J; JUAN JOSE VAQUERO; DESCO, M.
Split Bregman-singular value analysis approach to solve the compressed sensing problem of fluorescence diffuse optical tomography; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 415-418, Springer International Publishing, , 2013.
- CHAVARRÍAS, C.; ABASCAL, J.F.P.J.; MONTESINOS, P.; DESCO, M.
How does compressed sensing affect activation maps in rat fMRI?; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 202-205, Springer International Publishing, , 2013.
- CHIL, R.; FRAILE, L.M.; VAQUERO, J.; PICADO, E.; RODRÍGUEZ-MORENO, A.; RODRÍGUEZ-SÁNCHEZ, M.C.; BORROMEIO, S.; DESCO, M.; UDÍAS, J.M.; JUAN JOSE VAQUERO
Advanced Networked Modular Personal Dosimetry System; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 1398-1401, Springer International Publishing, , 2013.
- CRESPO, S.; MALIK, G.; MORO, R.M.; MARTÍNEZ-SANTAMARÍA, L; RODRIGUEZ, L.; ESCAMEZ, M.J.; RIO, M.D.; JORCANO, J.L.; LARCHER, F.
Assessment of the performance and fate of adipose-derived mesenchymal stem cells forming part of bioengineered skin equivalents in vitro and in vivo; en: Journal of Investigative Dermatology, 2013.
- CUSSÓ, L.; DESCO, M.; LÓPEZ-SÁNCHEZ, L.; PEÑA-ZALBIDEA, S.; GARCIA-VAZQUEZ, V.
Tracking ¹¹¹In-labeled human Mesenchymal Stem Cells after intraperitoneal administration combining SPECT and MRI: a pilot study., World Molecular Imaging Congress, Savannah, ESTADOS UNIDOS DE AMERICA, 2013.
- CUSSÓ, L.; HERNANDEZ-PORRAS, I.; MONTESINOS, P.; GUERRA, C.; BARBACID, M.; DESCO, M.
Phenotyping K-RasV14I knock-in mouse by Cardiac-MRI: a pilot study, World Molecular Imaging Congress, Savannah, ESTADOS UNIDOS DE AMERICA, 2013.
- CUSSÓ, L.; LÓPEZ-SÁNCHEZ, L.; DESCO, M.; PEÑA-ZALBIDEA, S.; DE FRANCISCO, A.; SANCHEZ, P.; JUAN JOSE VAQUERO
Evaluating the best treatment, calcium channel blocker or ketogenic diet, to reduce myocardial ¹⁸FDG uptake, World Molecular Imaging Congress, Savannah, ESTADOS UNIDOS DE AMERICA, 2013.
- CUSSÓ, L.; MIRONES, I.; PEÑA-ZALBIDEA, S.; LÓPEZ-SÁNCHEZ, L.; GARCIA-VAZQUEZ, V.; GARCIA-CASTRO, J.; DESCO, M.
Need of multimodal SPECT/MRI for tracking of ¹¹¹In-labeled human mesenchymal stem cells in neuroblastoma tumor-bearing mice; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013(MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 392-394, Springer International Publishing, , 2013.

- DESCO, M.
Innovación en medicina, Jornada tecnológica de dolor lumbar, 11 mayo, *LEGANES*, ESPAÑA, 2013.
- DESCO, M.
Retos tecnológicos de la imagen en el siglo XXI, Simposio Internacional "Los retos de la imagen cardíaca en el siglo XXI", 16-17 enero, *MADRID*, ESPAÑA, 2013.
- DIAZ, J.; CANTERO, J. L. ; AHMED, M.; SOLDANI, X.; MIGUELEZ, M.H.
3D numerical modelling of machining; en: 20th International Conference on Computer Methods in Mechanics, A.R. COMPRINT, 2013.
- DIAZ, J.; SANTIUSTE, C.; FEITO, N.; SOLDANI, X.; MIGUELEZ, M.H.
Damage prediction in composite milling, IV ECCOMAS Thematic Conference on the Mechanical Response of Composites (COMPOSITES2013), *AZORES*, PORTUGAL, 2013.
- DONG, D.; GUO, J.; YANG, Y.; SHI, L.; PENG, D.; LIU, Z.; RIPOLL, J; TIAN, J.
Analysis of the rotational center location method in Optical Projection Tomography; en: 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) 2013, IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, ESTADOS UNIDOS DE AMERICA, 2013.
- ESCAMEZ, M.J.; GARCIA, M.; GARCÍA, E.; MIR-MIR, S.; MORENO, J.C.; REZZONICO, R.; PONZIO, G.; LLAMES, S.; CALVO, M.; HERRERO, J.; MEANA, A.; ZAMBRUNO, G.; LARCHER, F.; RIO, M.D.
Long-term COLVII expression after histocompatible bioengineered skin transplantation in a COL VII-null RDEB patient, 23rd conference of European Wound Management Association, *COPENHAGEN*, DINAMARCA, 2013.
- ESCOBAR, D.; AHEDO, E.
Global stability analysis of azimuthal oscillations in Hall Thrusters, 33rd International Electric Propulsion Conference, *WASHINGTON, DC*, ESTADOS UNIDOS DE AMERICA, 2013.
- FLORES, O.; MARUGAN, C.; SANTANA, D.; GARCÍA-VILLALBA, C
Thermal stresses analysis of a circular tube in central receiver; en: Energy procedia (Proceedings of the SolarPACES 2013 International Conference), ELSEVIER, LTD, HOLANDA - PAISES BAJOS, 2013.
- GARCÍA BLAS, J.; ABELLA, M.; LIRIA, E.; ISAILA, F.; CARRETERO, J.; DESCO, M.
Parallel implementation of a X-ray tomography reconstruction algorithm based on MPI and CUDA; en: EuroMPI '13, 15-18 september 2013, Madrid, Spain. Proceedings of the 20th European MPI Users' Group Meeting 217-222, ACM, , 2013.
- GARCÍA BLAS, J.; ABELLA, M.; MOLINA, C. de; LIRIA, E.; ISAILA, F.; CARRETERO, J.; DESCO, M.
Parallel Implementation of a X-Ray Tomography Reconstruction Algorithm for High-Resolution Studies; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 257-260, Springer International Publishing, , 2013.
- GARCÍA, S.C.C.G.; MALIK, G.R.; MORO, R.M.; RIO, M.D.; JORCANO, J.L.; LARCHER, F.
Fate and function of adipose-derived mesenchymal stem cells (ADMSC) in bioengineered skin equivalents in vitro and in vivo; en: Human gene therapy, Mary Anne Liebert, , 2013.

- GARCIA-VAZQUEZ, V.; CUSSÓ, L.; CHAMORRO-SERVENT, J; MIRONES, I.; GARCIA-CASTRO, J.; LÓPEZ-SÁNCHEZ, L.; PEÑA-ZALBIDEA, S.; MONTESINOS, P.; CHAVARRÍAS, C.; PASCAU, J.; DESCO, M.
Registration of small-animal SPECT/MRI studies for tracking human mesenchymal stem cells; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 399-402, Springer International Publishing, , 2013.

- GRECO, C.S.; IANIRO, A.; CARDONE, G.
Heat transfer in twin circular synthetic impinging air jets; en: Eurotherm Seminar n° 96 on Convective Heat Transfer Enhancement, 2013.

- GUZMÁN-DE-VILLORIA, J.; MATEOS-PÉREZ, J.M; FERNÁNDEZ-GARCÍA, P.; BORREGO-RUIZ, P.; DESCO, M.
Differentiation between gliomas and brain metastases using MR imaging, resonance spectroscopy, perfusion and diffusion-weighted imaging; en: ASNR 51st Annual Meeting & The Foundation of the ASNR Symposium 2013, 18-23 may, San Diego, California, Proceedings of the ASNR 51st Annual Meeting, 115, 2013, 2013.

- HERNÁNDEZ-AGUDO, E.; SOTO-MONTENEGRO, M.L; MONDÉJAR, T.; SÁNCHEZ, J.; MULERO, F.; DESCO, M.; QUINTELA-FANDINO, M.
18F-misonidazole positron-emission tomography (FMISO-PET) as an early biomarker of vascular normalization in response to antiangiogenic therapy; en: European Cancer Congress, 27 sept-1 oct, 2013, European journal of cancer (European Cancer Congress 2013 Abstract Book), ELSEVIER, HOLANDA - PAISES BAJOS, 2013.

- JORCANO, J.L.
Patofisiología y desarrollo de terapias para enfermedades raras y cáncer, XXVII Congreso Nacional de la Asociación Española de Genética Humana (aEGH), MADRID, ESPAÑA, 2013.

- JORCANO, J.L.
Bioingeniería de piel: de la investigación al paciente, Foro de Investigación Biomédica de Cantabria, SANTANDER, ESPAÑA, 2013.

- JORCANO, J.L.
Piel artificial: presente y futuro, VI Jornadas de la Asociación de Medicina Estética de Castilla-La Mancha (AMECLM) , CIUDAD REAL, ESPAÑA, 2013.

- JORCANO, J.L.
Bioingeniería de piel: aplicaciones en cicatrización, III Congreso de la Sociedad Española de Heridas (SEHER), TOLEDO, ESPAÑA, 2013.

- JUAN JOSE VAQUERO; CHIL, R.
La electricidad del cuerpo humano, Semana de la Ciencia 2013, LEGANES, ESPAÑA, 2013.

- LACALLE-AURIOLES, M.; ALEMÁN-GÓMEZ, Y.; GUZMÁN-DE-VILLORIA, J.; OLAZARÁN, J.; CRUZ, I.; MATEOS-PÉREZ, J.M; MARTINO, ME; DESCO, M.
The importance of a valid reference region for intensity normalization of perfusion MR studies in early Alzheimer's disease; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 218-220, SPRINGER , , 2013.

- MARINETTO, E.; BALSAL-LOZANO, I.; LANSDOWN, J.; SANTOS-MIRANDA, J.A.; VALDIVIESO, M.; DESCO, M.; PASCAU, J.
Semi-automatic segmentation of sacrum in computer tomography studies for intraoperative radiation therapy; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 344-347, Springer International Publishing, , 2013.
- MARINETTO, E.; GARCIA-VAZQUEZ, V.; SANTOS-MIRANDA, J.A.; CALVO, F.; VALDIVIESO, M.; ILLANA, C.; DESCO, M.; PASCAU, J.
Optical tracking system integration into IORT treatment planning system; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 37-40, Springer International Publishing, , 2013.
- MARTÍNEZ-SANTAMARÍA, L; CONTI, C.J.; GARCÍA-GARCÍA, F.; LLAMES, S.; GARCÍA, E.; RETAMOSA, L.; HOLGUÍN, A.; ILLERA, N.; DUARTE, B.; CAMBLOR, L.; LLANEZA, J.M.; DOPAZO, J.; LARCHER, F.; MEANA, A.; RIO, M.D.; ESCAMEZ, M.J.
Cell-based therapy for diabetic wounds: from the bench to the patient, 23rd Conference of European Wound Management Association, *COPENHAGEN, DINAMARCA*, 2013.
- MARTINO, ME; GARCIA-VAZQUEZ, V.; LACALLE-AURIOLES, M.; OLAZARÁN, J.; GUZMÁN-DE-VILLORIA, J.; CRUZ, I.; CARRERAS, J.L.; DESCO, M.
Spatial normalization in voxel-wise analysis of FDG-PET brain images; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013. (MEDICON), 25-28 September 2013, Seville, Spai. IFMBE Proceedings, 41: 447-450, Springer International Publishing, , 2013.
- MATEOS-PÉREZ, J.M; DESCO, M.; JUAN JOSE VAQUERO
Tracer kinetic modeling with R for batch processing of dynamic PET studies; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 301-304, Springer International Publishing, , 2013.
- MENCIA, A.; GARCIA, M.; LUCAS, R.D.; COTO, P.; COSTA, M.; GARCÍA, E.; LLAMES, S.; ILLERA, N.; HOLGUÍN, A.; MEANA, A.; ESCAMEZ, M.J.; RIO, M.D.
La identificación de las mutaciones causantes de epidermolisis bullosa juntural con atresia de píloro en el neonato permite pronosticar la evolución de la enfermedad, XXVII Congreso Nacional de la Asociación Española de Genética Humana, *MADRID, ESPAÑA*, 2013.
- MERINO, M.; AHEDO, E.
Influence of electron and ion thermodynamics on the magnetic nozzle plasma expansion, 33rd International Electric Propulsion Conference, *WASHINGTON, DC, ESTADOS UNIDOS DE AMERICA*, 2013.
- MOLINA, C. de; ABELLA, M.; MONTESINOS, P.
¿Qué es una tomografía?, Semana de la Ciencia 2013, *LEGANES, ESPAÑA*, 2013.
- MOLINA, C. de; PASCAU, J.; DESCO, M.; ABELLA, M.
Calibration of a C-arm X-Ray System for Its Use in Tomography; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. Proceedings, 41: 245-248, Springer International Publishing, , 2013.
- MONTESINOS, P.; ABASCAL, J.F.P.J.; CHAVARRÍAS, C.; JUAN JOSE VAQUERO; DESCO, M.
Compressed sensing for cardiac MRI cine sequences: a real implementation on a small-animal scanner; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 214-217, Springer International Publishing, , 2013.

- NAVARRO, J.; AHEDO, E.; MERINO, M.; GÓMEZ, V.; RUIZ, M.; GONZÁLEZ DEL AMO, J.A.
Helicon plasma thrusters: prototypes and advances on modeling, 33rd International Electric Propulsion Conference, WASHINGTON, DC, ESTADOS UNIDOS DE AMERICA, 2013.
- RIO, M.D.
¿Puede la biotecnología curar enfermedades raras?, XIII Semana de la Ciencia (Comunidad de Madrid), MADRID, ESPAÑA, 2013.
- RIO, M.D.
Terapias celulares en el tratamiento de las genodermatosis, XXV Reunión del Grupo Español de Dermatología Estética y Terapéutica de la AEDV (GEDET), ALICANTE, ESPAÑA, 2013.
- RIO, M.D.
Combining skin tissue engineering and gene therapy to treat genodermatosis, 12th World Congress of Pediatric Dermatology, MADRID, ESPAÑA, 2013.
- RIO, M.D.
Actualización en diagnóstico y tratamiento de las epidermolisis ampollosas, Seminario online para hospitales españoles, MADRID, ESPAÑA, 2013.
- RIO, M.D.
El álgebra y la geometría como apoyo al diagnóstico médico, Aplicaciones Industriales del Álgebra Computacional (AICA 2013), MADRID, ESPAÑA, 2013.
- RIO, M.D.
Terapias avanzadas para enfermedades hereditarias de la piel; en: IX Curso Internacional Dermatológica Pediátrica, VI Curso Práctico Dermatología Pediátrica para Pediatras. Programa científico, abstracts, , 2013.
- RIO, M.D.
Artificial Skin, European Human Genetics Conference 2013, PARÍS, FRANCIA, 2013.
- RIO, M.D.
Protein, cell and gene therapies for rare skin, ESGCT and SETGyC Collaborative Congress 2013, MADRID, ESPAÑA, 2013.
- ROMERO-GRIMALDI, C.; SOTO-MONTENEGRO, M.L; BENITO, M.; BERROCOSO, E.; BRAVO, L.; DESCO, M.; MICÓ, J.A.
Neuropathic pain and depression causes similar brain changes in animal models, 4th International Congress on Neuropathic Pain, 23-26 mayo, TORONTO, CANADA, 2013.
- RUIZ, M.; URDAMPILLETA, I.; CURA, J.M.D.; AHEDO, E.; NAVARRO, J.
Space missions potentially benefit or enabled by the prospective use of Helicon Plasma thrusters, 33rd International Electric Propulsion Conference, WASHINGTON, DC, ESTADOS UNIDOS DE AMERICA, 2013.
- SANJURJO, M.; SCHEERES, D.J.; LARA, M.; PELÁEZ, J.
Solution of Optimal Continuous Low-Thrust Transfer using Lie Transforms, AAS/AIAA Astrodynamics Specialist Conference, HILTON HEAD, SOUTH CAROLINA, ESTADOS UNIDOS DE AMERICA, 2013.

- SISNIEGA, A.; ABASCAL, J.F.P.J.; ABELLA, M.; CHAMORRO-SERVENT, J.; DESCO, M.; JUAN JOSE VAQUERO
Iterative dual-energy material decomposition for slow kVp switching: a compressed sensing approach; en: XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 (MEDICON), 25-28 September 2013, Seville, Spain. IFMBE Proceedings, 41: 491-494, Springer International Publishing, , 2013.
- TZAMALI, E.; FAVICCHIO, R.; RONIOTIS, A.; TZEDAKIS, G.; GREKAS, G.; RIPOLL, J.; MARIAS, K.; ZACHARAKIS, G.; SAKKALIS, V.
Employing in-vivo molecular imaging in simulating and validating tumor growth; en: 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) 2013, IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, ESTADOS UNIDOS DE AMERICA, 2013.
- URRUTXUA , H.; SANJURJO, M.; PELÁEZ, J.
Dromo Propagator Revisited; en: Space Flight Mechanics 2013, American Astronautical Society (AAS), ESTADOS UNIDOS DE AMERICA, 2013.
- VIZCAÍNO, G.; RIPOLL, J
La naturaleza microscópica en 3D, Semana de la Ciencia 2013, *LEGANES, ESPAÑA, 2013.*
- ZAPATERO, E.; GARCÍA, J.L.; GARCIA, M.; GUERRERO-ASPIZUA, S; TOLL, S.; BASELGA, E.; GARCÍA-VERDUGO, J.M.; CONTI, C.J.; LARCHER, F.; PALLARDÓ, F.; RIO, M.D.
Role of mitochondria in the pathogenesis of kindler syndrome; en: Human gene therapy, Mary Anne Liebert, , 2013.

Propiedad Industrial/intelectual

- *Inventores:* GARCÍA-TABARES, L.; OLIVER AMOROS, C.C.; TORAL, F.; GAVELA, D.; OBRADORS, D.; VÁZQUEZ, C.; PODADERA, I.; MUNILLA, J.; CALERO, J.; PEREZ, J.M.; DESCO, M.; HAUG, F.
Ciclotrón clásico superconductor compacto
Tipo: PATENTE
Titular: UNIVERSIDAD CARLOS III DE MADRID, CIEMAT
Número Solicitud: **P201330626**
Fecha Solicitud: 30/04/2013
- *Inventores:* MERINO, M.; AHEDO, E.
SISTEMA SIN PARTES MÓVILES NI ELECTRODOS Y PROCEDIMIENTO PARA VECTORIZAR EL EMPUJE EN MOTORES ESPACIALES DE PLASMA
Titular: UNIVERSIDAD POLITECNICA DE MADRID
Número Solicitud: **P201331790**
Fecha Solicitud: 05/12/2013

Actividades de formación y movilidad de personal investigador

Estancias en otros centros

- JORGE RIPOLL LORENZO
Título: Cooperación con ETH
Centro Externo: ETH
País: SUIZA
Duración: 01/02/2013 a 28/02/2013.

- **JUAN JOSE VAQUERO LOPEZ**
Título: Cooperación en establecimiento de títulos del área de Bioingeniería y realización de actividades de investigación.
Centro Externo: Research Laboratory of Electronics at Massachusetts Institute of Technology
País: ESTADOS UNIDOS DE AMERICA
Duración: 19/07/2013 a 19/08/2013.

- **LUCIA MARTINEZ SANTAMARIA**
Título: Caracterización del rol de la enzima ZDHHC13 en el cáncer de piel y en la regeneración cutánea.
Centro Externo: M.D. Anderson Cancer Center, Science Park
País: ESTADOS UNIDOS DE AMERICA
Duración: 28/08/2013 a 18/12/2013.

- **PAULA MONTESINOS SUAREZ DE LA VEGA**
Título: Estudio del impacto de las técnicas de aceleración para la visualización de placas
Centro Externo: MRI group (Research Laboratory of Electronics). Massachusetts Institute of Technology (USA)
País: ESTADOS UNIDOS DE AMERICA
Duración: 01/09/2013 a 31/10/2013.

Estancias de investigadores externos en la universidad

- **JUAN JOSE VAQUERO LOPEZ**
Título: Improving PET quantification in clinical and preclinical applications: advanced tools for the analysis of 4D image sequences.
Investigador Externo: BACHARACH, S.L.
Centro Externo: UCSF, San Francisco, California
País: ESTADOS UNIDOS DE AMERICA
Duración: 01/09/2013 a 31/05/2014.